



Installation Instructions

6718 Whitestone Road • Gwynn Oak, Maryland 21207 • (410) 298-4343
FAX: (410) 298-3579 • www.atiracing.com

ATI Super Damper – Jr Flywheel Part #s: 917163 - 917164 - 917165

Congratulations on the purchase of your new ATI Super Damper designed for Junior Dragster and other Briggs & Stratton based flathead engines. The benefits of a properly tuned and functioning crankshaft harmonic balancer have been proven over and over for more than 100 years, and ATI has finally provided that benefit for the Briggs & Stratton platform.

Your new ATI Super Damper bolts have come with blue 242 Loctite installed and torqued to 18 ft lbs, and is set at zero degrees. If you are replacing a non adjustable flywheel, simply bolt your new Super Damper on and you will have the same timing.

Timing Adjustments

Timing changes are done in + or – 2 deg increments using the supplied 1/8th inch dowel pin. Simply loosen the bolts, move the magnet part of the damper adjust till the hole in the shell lines up with the hole in the hub, insert your dowel pin to keep anything from moving, reapply blue Loctite and torque the bolts down evenly in a non-circular pattern to 18 ft lbs. 1-degree increment changes can be made with the smaller lines that are lasered on the hub and the shell.

Installation

Step 1. Remove your Flywheel

Remove your current, non-damped flywheel by removing the main bolt that is also used to start your engine. Sometimes some heat is needed to help loosen the Loctite if it has been used on the starter nut. **Be sure to only put heat directly where the thread is on the nut.** If your current flywheel has adjustable timing, please note the existing setting. You may or may not need a puller device to get your flywheel off. This device threads into 2 holes in the current flywheel and allows you to press against the end of the crankshaft, pulling on the flywheel so it breaks free of the taper lock.

Step 2. Prepare for Installation

You **MUST** run a woodruff key with the ATI Super Damper – Jr Flywheel. Be sure the taper, keyway and the rest of the crank is in clean order, with no nicks, or burrs. Use a permanent marker to make a line on the taper area that you can see and use in the next step.

Step 3. Install the Super Damper

Push the ATI damper in with some force and rotate it left and right on the taper so that it will remove or smudge the line you made. You want to see that at least 80% of the line on the taper has been smeared or removed. If it has, then you are ready to install. If it has not, then you need to get some lapping compound and repeat the process to help the ID of the ATI Super Damper conform to the ID of the crank taper.

Once the step above is done, be sure both parts are clean, and carefully install your key. Put your finger behind the damper while you slide it on to make sure the key stays in place.

Your starter nut can now get reinstalled with blue Loctite and torqued to your engine builders' specs. 55-65 ft lbs seems to be the consensus but its pretty hard to hold the flywheel and most people use a 1/2" impact and give it 2-3 impacts.

You are ready to get back to racing!

Junior Dragster Flywheel / Damper Advance Angle Adjustment

The advance angle of the Junior Dragster Flywheel Dampers may conveniently be adjusted in steps of 2° by loosening the bolts and lining up marked holes corresponding to the desired angle. The angle is then locked in place with an 1/8" dowel pin placed in the hole while tightening the bolts.

Odd advance angles (e.g. +1°, +3°) may also be locked in by the 1/8" dowel pin. This is done by placing the pin in the hole indicated in the chart below. Use the degree scale on the outside of the flywheel to get the angle close prior to placing the 1/8" dowel pin.

A pointed pick, similar to that shown below, can be used to move the flywheel 1° at a time (with bolts loosened.) Whenever a pin hole is lined up, there will be another that is about 1/2 hole mis-aligned. Place the point of the pick in this hole and carefully align the hole. Find the next hole that is 1/2 hole off and repeat the process until the desired angle is reached.

Desired Advance	Hole Aligned
+7	0
+5	-2
+3	-4
+1	-6
-1	+6
-3	+4
-5	-5

